

Remarks

The Office Action mailed November 30, 2005 has been carefully reviewed. Reconsideration of this application as amended and in view of the following remarks is respectfully requested. Claims 1-16 were originally in the application. Claims 1-10 stand "withdrawn" from consideration as drawn to a non-elected invention. Three new claims, claims 17-19, have been added. The claims presented for examination in this application are claims 11-19.

35 USC 102(b) Rejection

In numbered paragraph 4 of the Office Action mailed November 30, 2005, claims 11 and 13-15 were rejected under 35 USC 102 (b) as allegedly being anticipated the Cammack et al reference (U.S. Patent No. 5,574,327).

Applicants' Response to 35 USC 102(b) Rejection

Applicant has added new independent claim 17 and dependent claims 18 and 19. Applicant believes the invention claimed in claims 11 and 13-19 is not anticipated by the Cammack et al reference.

The apparatus disclosed in the Cammack et al reference is different from Applicants' invention claimed in claims 11 and 13-19. In particular, Applicants' invention includes "an annealed open microchannel in said annealed substrate" as provided in Applicants' claim 11. This element is more specifically described as "An apparatus having a sealed open microchannel therein, produced by the method comprising: .... providing an annealed open microchannel in said etched substrate produced by annealing said annealed substrate" in Applicants' new claim 17. Applicants have added new claims 17-19 because of the difficulty of claiming Applicants' apparatus and distinguishing Applicants' apparatus from the prior art. New claims 17-19 are a product produced by a process and are applicable when it is difficult to claim the device.

The Cammack et al reference does not disclose Applicants annealed open microchannel claim element. The element 22 of the Cammack et al reference is described as “a half cavity 22” and this element is simply another etched microchannel. The Cammack et al reference apparatus is illustrated in FIG. 1 of the Cammack et al reference reproduced below.

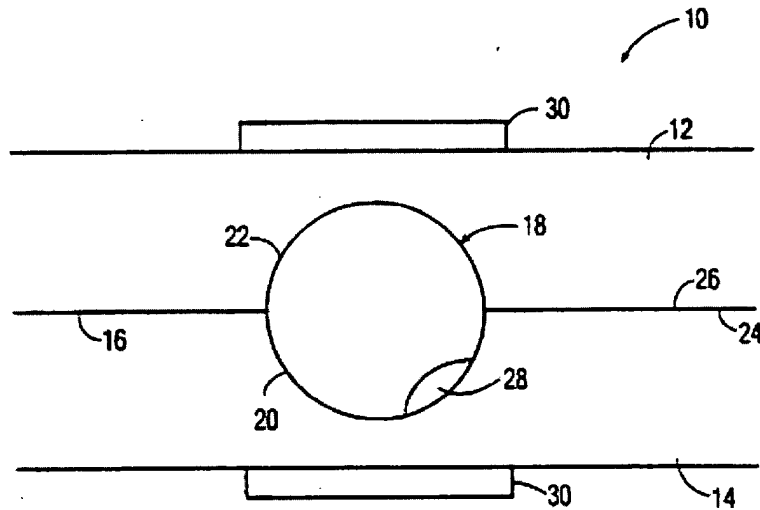


FIG. 1

In the Cammack et al reference the apparatus is described as, “Cavity 18 which comprises a half cavity 20 in substrate 14 and a half cavity 22 in substrate 12.” Applicants particularly point out that “half cavity 22 in substrate 12” is formed by etching. This is clearly described in Cammack et al reference as, “Thereafter, the masked substrate is exposed to an etchant such as hydrofluoric acid for a time suitable to create cavity 20. The time and amount of exposure to the etchant may be adjusted, in the known manner, to provide the cavity size and shape desired. Upper substrate 12 is also masked and etched in a similar manner to provide half cavity 22.” (Col. 6, lines 7-9 of the Cammack et al reference)

Applicants’ “an annealed open microchannel in said annealed substrate” of claim 11 and “providing an annealed open microchannel in said etched

substrate produced by annealing said annealed substrate” of new claim 17 are formed by the annealing process. It is clear from the Cammack et al reference that “half cavity 22” is not produced by annealing. The Cammack et al reference states, “The two wafers are then annealed at high temperature (e.g., 1000 C.), resulting in a chemical bond at the interface, which has the strength of the bulk material. Even though the temperature is elevated, bonding takes place at a temperature below the melting point of the material (quartz: approximately 1400° C.). This means that the substrate will not deform during the bonding process.” (Col. 3, lines 21-28 of the Cammack et al reference)

Since the Cammack et al substrate will not deform during the bonding process, the Cammack et al “half cavity 22” is not produced by annealing.

The standard for a 35 USC §102 rejection is stated in RCA Corp. v. Applied Digital Systems, Inc. 221PQ 385, 388 (d. Cir. 1984) “Anticipation is established only when a single prior art reference discloses, either expressly or under principles of inherency, each and every element of a claimed invention.”

Applicant points out that the following elements of Applicants’ claims 11 and 13-19 are not found in the Cammack et al reference:

“an annealed open microchannel in said annealed substrate over said etched microchannel in said etched substrate,” or

“providing an annealed open microchannel in said etched substrate produced by annealing said annealed substrate.”

Since the elements described above are not found in the Cammack et al reference, the Cammack et al reference would not support a 35 USC §102(b) rejection.

### 35 USC 103(a) Rejection

In numbered paragraph 6 of the Office Action mailed November 30, 2005, claims 12 and 16 were rejected under 35 USC 103(a) as allegedly being unpatentable over the Cammack et al reference (U.S. Patent No. 5,574,327).

### Applicants' Response to 35 USC 103(a) Rejection

Applicant has added new independent claim 17 and dependent claims 18 and 19. Applicant believes the invention claimed in claims 12, 16, and 17-19 is patentable over the Cammack et al reference.

The factual inquiries set forth in Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966) that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) include "Ascertaining the differences between the prior art and the claims at issue."

The differences between the Cammack et al reference and Applicants' invention defined by claims 12, 16, and 17-19 includes the fact that the following elements of claims 12, 16, and 17-19 are not found in the Cammack et al reference:

"an annealed open microchannel in said annealed substrate over said etched microchannel in said etched substrate," or

"providing an annealed open microchannel in said etched substrate produced by annealing said annealed substrate."

Under MPEP §2142, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine reference teachings. It should be noted that the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the

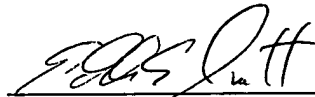
prior art, and not based on applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Since there is no suggestion or motivation to modify the Cammack et al reference to produce Applicant's invention, a 35 U.S.C. §103(a) rejection of Applicants' claims 12, 16, and 17-19 would not be appropriate.

SUMMARY

The undersigned respectfully submits that, in view of the foregoing amendments and the foregoing remarks, the issues in the Office Action dated November 30, 2005 have been fully addressed and overcome. The present application is believed to be in condition for allowance. It is respectfully requested that this application be reconsidered, that the claims be allowed, and that this case be passed to issue. If it is believed that a telephone conversation would expedite the prosecution of the present application, or clarify matters with regard to its allowance, the Examiner is invited to call the undersigned attorney at (925) 424-6897.

Respectfully submitted,



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